

- c) [a plurality of] at least one temperature sensor[s] on an exterior portion of the distal shaft section, being positioned so that the [at least one] temperature sensor is disposed between two adjacent electrodes; and
- d) a metal band adjacent to and radially disposed about an outer surface of the temperature sensor and shaft.

2. (Twice Amended) The device of claim 1 further including [wherein the electrical conductors comprise] a plurality of electrode electrical conductors which are each electrically connected to an individual electrode at a distal end of the electrode electrical conductor and having a proximal end configured to connect to an electrical source, and a plurality of temperature sensor electrical conductors which are each electrically connected to an individual temperature sensor at a distal end of the temperature sensor electrical conductor.

6. (Amended) The device of claim [4] 1 further including a jacket disposed about the [conducting member] metal band.

7. (Amended) The device of claim 6 wherein the [conducting member] jacket is in part disposed about a periphery of the two electrodes adjacent to the temperature sensor.

8. (Amended) The device of claim 1 wherein [the electrode] at

B2 least one of the electrodes is a tubular helical coil disposed about the shaft.

B3 13. (Amended) The device of claim 12 including [a second array of]

electrical conductors at least in part helically braided into the shaft.

B4 18. (Twice Amended) An electrophysiology device assembly,

comprising:

a) a guiding member having an elongated shaft having a proximal end, a distal end, a port in the proximal end, a port in a distal shaft section, and a lumen extending therein; and

b) an electrophysiology device slidably disposed in the lumen of the guiding member, comprising:

an elongated shaft having a proximal end, a distal end, and a distal shaft section, and a plurality of electrical conductors helically braided into the shaft;

a plurality of electrodes on an exterior portion of the distal shaft section electrically connected to the electrical conductors;

[and]

a plurality of temperature sensors on an exterior portion of the distal shaft section, being positioned so that at least one temperature sensor is disposed between two adjacent electrodes; and

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a metal band adjacent to and radially disposed about an outer surface of the temperature sensor and shaft.

- Sub 20. (Twice Amended) A method for treating a patient, comprising:
- a) providing an electrophysiology device, comprising:
- an elongated shaft having a proximal end, a distal end, and a distal shaft section, and a plurality of electrical conductors helically braided into the shaft;
- a plurality of electrodes on an exterior portion of the distal shaft section electrically connected to the electrical conductors;
- and
- a plurality of temperature sensors on an exterior portion of the distal shaft section, being positioned so that at least one temperature sensor is disposed between two adjacent electrodes; and
- a metal band adjacent to and radially disposed about an outer surface of the temperature sensor and shaft;
- b) introducing the device into the patient's vasculature and advancing the device until the distal section of the device is disposed within a chamber of the patient's heart;
- c) placing at least one electrode on the device distal shaft section in contact with a desired surface of the heart chamber; and
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- B5
- d) delivering high frequency electrical energy to [two adjacent electrodes] the at least one electrode on the device and measuring the temperature at a temperature sensor adjacent the electrode [between the two electrodes, to form a first lesion and a second lesion continuous with the first lesion on the surface of the heart chamber].
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23. (Amended) An electrophysiology device for use within a patient's heart, comprising:

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- a) an elongated shaft having proximal and distal ends; and
- b) a distal shaft section [having a maximum outer dimension of about 1 mm to about 1.3 mm,] a plurality of longitudinally disposed electrodes on an exterior portion thereof, the electrodes having a maximum outer diameter of about 1 mm to about 1.22 mm and a length of about 2 mm to about 8 mm and an interelectrode spacing of about 1 mm to about 2 mm, at least one temperature sensor disposed on an exterior portion of the distal shaft section between two adjacent electrodes, and a plurality of individually insulated electrical conductors which are each electrically connected to an individual electrode or an individual temperature sensor.
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28. (Amended) The electrophysiology device of claim 23 [wherein

the electrical conductors are electrically connected to] including a source of

high frequency electrical energy electrically connected to the electrical

conductors.

29. (Amended) An electrophysiology device, comprising:

- a) an elongated shaft having a proximal end, a distal end, and a distal shaft section;
- b) a plurality of electrodes on an exterior portion of the distal shaft section; and
- c) a plurality of temperature sensors on an exterior portion of the distal shaft section, being positioned so that at least one temperature sensor is disposed between two adjacent electrodes, and each temperature sensor having a conducting member comprising an annular metal band radially disposed about and adjacent to the shaft and the temperature sensor thereon, which transmits heat to the temperature sensor.

Please add new claims 31-35, as follows:

31. The device of claim 2 wherein the <sup>electrode electrical</sup> ~~electrical~~ conductors are helically braided into the shaft.

32.<sup>17</sup> The device of claim ~~6~~<sup>11</sup> wherein the jacket is disposed about and in contact with the metal band, and defines an outer surface of the electrophysiology device.

33.<sup>14</sup> The device of claim ~~6~~<sup>11</sup> wherein the jacket is in part disposed about a periphery of at least one of the two electrodes adjacent to the temperature sensor.

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34. An electrophysiology device, comprising:

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- a) an elongated shaft having a proximal end, a distal end, and a distal shaft section;
  - b) a plurality of electrodes on an exterior portion of the distal shaft section;
  - c) at least one temperature sensor on an exterior portion of the distal shaft section, being positioned so that the temperature sensor is disposed between two adjacent electrodes;
  - d) a conducting member connected to the temperature sensor; and
  - e) a jacket disposed about the conducting member and a periphery of at least one of the two electrodes adjacent to the temperature sensor.

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35. The method of claim 20 including placing at least two adjacent electrodes on the device distal shaft section in contact with a desired